IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Backes Application No.: 10/781214 Filed: 02/18/2004 Title: Method for Selecting an Optimum Access Point in a Wireless Network on a Common Channel Attorney Docket No.: 160-033	Group Art Unit: 2665 Examiner: Tran

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APPELLANT'S BRIEF PURSUANT TO 37 C.F.R. § 1.192

This Appellant's brief is hereby submitted in accordance with the Notice of Appeal filed March 15, 2007.

I. Real Party in Interest

The real party in interest is Autocell Laboratories, Inc.

II. Related Appeals and Interferences

Appellants are not aware of any appeals or interferences that are related to the present case.

III. Status of the Claims

Claims 1-6 are pending in this application. Claims 1 through 3, 5 and 6 stand rejected, and claim 4 is indicated to be allowable subject to objection. This is an appeal of the Office Action dated December 6, 2006, finally rejecting all of the pending claims, and the subsequent Advisory Action dated March 6, 2007. The rejections of claims 1 through 3, 5 and 6 are the subject of this appeal.

IV. Status of Amendments

None of the claims were amended in the most recently submitted amendment, which was filed January 9, 2007. That amendment was entered and considered by the Examiner.

V. Summary of Claimed Subject Matter

The subject matter of claims 1-6 is a method for use by a wireless device in a wireless communications environment to evaluate an access point. In particular, the method ascertains whether an alternative access point is a superior

candidate even where the alternative access point has adopted a temporarily lowered power level, thereby rendering a simple signal strength indicator insufficient. With regard to the cited elements of claim 1, the specification states "a STA 16 will send a Bid message to an AP that is "better" than the STA's current AP, where better means that the AP has a lower biased distance."[1] The Specification further states that the mobile station "notes the received power level that accompanied the beacons and Announce messages and uses these values along with the **TP backoff values** to calculate the distance to the APs in Banzais."[2] (emphasis added) As described at the bottom of page 19, "the TP Backoff value indicates how far from maximum power the sending AP's radio has been turned down, as will be explained in more detail in the AP Power Adjustment section." Using the TP backoff values specifically supports "ascertaining based at least in-part on a level of attenuation of signal strength of transmissions from the alternative access point," and section 2.a.1.3 at pp. 32-38 supports "where the alternative access point transmits at less than full power." The sending of the Bid message, as quoted above, supports "requesting association with the alternative access point if it is ascertained that the wireless device should attempt to associate with said alternative access point."

The limitation recited in claim 2, "automatically collecting, by the wireless device, information about the alternative access point, including an indication of the level of attenuation," is supported in the Specification at page 48, which

[1] Page 41, last full paragraph
[2] Page 49, lines 16-18

describes building a table including TP Backoff indicators from beacons and DRCP Announce messages.

The limitation in claim 3 "ascertains that the wireless device should attempt to associate with the alternative access point if the alternative access point is closer than the current access point in terms of a biased distance which accounts for AP loading" is supported in the specification in section 4.c.2 Biased Distance Calculation, beginning at page 55, and particularly at page 56.

The limitation of claim 5 "wherein the step of requesting association requests association by sending a message to the alternative access point" is supported in the Specification at page 44 in the description of "Bidding," under section 4, STA Optimization.

The limitation of claim 6 "wherein the step of ascertaining ascertains that the wireless device should attempt to associate with the alternative access point based at least in-part on maximum potential signal strength of the alternative access points" is supported in the Specification at pages 51 and 39. At the top of page 51 it is stated that "the notion of what constitutes a better AP takes into account the distance to the AP in Banzais." At the top of page 49 the distance in banzais equation is a function of received power plus TP Backoff. Received power plus TP Backoff is maximum potential signal strength of the alternative access point from the perspective of the mobile station.

VI. Grounds of Rejection to be Reviewed on Appeal

A. Claim 1 was rejected under 35 USC 102(e) as being anticipated by Crosbie.

B. Claims 2, 3, 5, and 6 were rejected under 35 USC 103(a) over Crosbie in view of Stewart.

VII. Argument

A. Crosbie fails to teach evaluating an alternative access point based on attenuation of signal strength of transmissions from an alternative access point where the alternative access point transmits at less than full power

It is well established that "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

Claim 1 was rejected under 35 USC 102(e) as being anticipated by Crosbie. In a wireless environment where an access point reduces its own transmit power in order to reduce RF footprint, it is difficult for a mobile station to evaluate that access point. When that access point is operating at full power the mobile station can generally evaluate the access point based on received signal

strength and other factors, as has been done in the art for some time. However, when the access point is operating at a lowered transmit power, it will appear to be a poor candidate for association because of that lowered signal strength.[3] This is a problem because that access point may actually be a very good candidate based on ability to operate at higher power, e.g., since the access point is only powered-down because no mobile stations currently require higher transmission power from the access point. It would therefore be useful for mobile stations to be able to quickly and efficiently determine whether an access point can increase power, and by how much.

The Office refers to paragraph 0047 of Crosbie as teaching the recited limitation of "ascertaining, by the wireless device, whether the wireless device should attempt to associate with an alternative access point, the ascertaining based at least in-part on a level of attenuation of signal strength of transmissions from the alternative access point where the alternative access point transmits at less than full power." Specifically, the office equates Crosbie's **signal strength** with the recited **level of attenuation of signal strength**. However, these two indicators are substantially different. Signal strength may be compared with received signal strength to estimate path loss, but signal strength alone does not indicate whether the access point is at partial power, nor the amount by which the access point could increase power. In contrast, if the mobile station learns that the access point is attenuating its transmissions by X dB, then the mobile station knows that the **received** signal strength might be increased by as much as X dB if the access point were to change attenuation, i.e., increase transmit power. Since

[3] Note that attenuation of transmit power by the access point is NOT the path loss.

Crosbie fails to teach that the mobile station utilizes the level of attenuation of signal strength of transmissions from the alternative access point, Crosbie fails to teach each element of the claim under consideration. In particular, Crosbie fails to teach "ascertaining, by the wireless device, whether the wireless device should attempt to associate with an alternative access point, the ascertaining based at least in-part on a level of attenuation of signal strength of transmissions from the alternative access point where the alternative access point transmits at less than full power."

The Office suggests in the Advisory Action that Applicant has argued limitations not recited in the claims. The Advisory Action specifically refers to examples Applicant used to explain the utility and advantages of the claimed invention. Applicant respectfully submits that the Office has mischaracterized Applicant's argument. Applicant states here for the record that those advantages are not intended to be limitations in the claims. The language of claim 1 that Applicant is arguing distinguishes Crosbie is "ascertaining, by the wireless device, whether the wireless device should attempt to associate with an alternative access point, the ascertaining based at least in-part on a level of attenuation of signal strength of transmissions from the alternative access point where the alternative access point transmits at less than full power." As stated above, Crosbie teaches use of **signal strength**, rather than **level of attenuation**. Using level of attenuation is patentably distinct because level of attenuation indicates ability to increase power, and by how much, whereas **signal strength** does not indicate either ability to increase power or by how much.

B. The combination of Crosbie and Stewart fails to teach the limitation that the STA utilizes the level of attenuation of signal strength of transmissions from the alternative access point

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Claims 2, 3, 5, and 6 were rejected under 35 USC 103(a) over Crosbie in view of Stewart. Like Crosbie, Stewart fails to teach the limitation that the mobile station utilizes the level of attenuation of signal strength of transmissions from the alternative access point. Rather, Stewart uses signal strength measurements. Use of signal strength, and received signal strength in particular, have long been used by mobile stations to select and access point. Typically, the access point with the greatest RSSI is selected. However, signal strength alone is an inadequate indicator in a network where access points change power dynamically to reduce RF footprint based on real time conditions. Neither Crosbie nor Stewart appear to contemplate a wireless network where access points transmit at reduced power to mitigate interference, or simply because no distant mobile stations are currently associated. As explained above, considering only signal strength would cause the mobile station to erroneously evaluate an

access point transmitting at reduced power. However, when an access point signals a level of attenuation, e.g., X dB below maximum, the station learns (1) the amount by which it should reduce its own transmit power, and (2) the amount by which the access point can increase power to provide better service or accommodate movement away from the access point.

Claims 2-6 are dependent claims which further distinguish claim 1, and which are allowable for the same reasons as claim 1. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

VIII. Conclusion

Appellants submit therefore that the rejections of the present claims 1-3, 5 and 6 under 35 U.S.C. 102 and 103 are improper for at least the reasons set forth above. Appellants accordingly request that the rejections be withdrawn and the case put forward for allowance.

Respectfully submitted,

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Appendix A - Claims

1. (previously presented) A method for use by a wireless device in a wireless communications environment, the method comprising the steps of:

associating the wireless device with a current access point;

ascertaining, by the wireless device, whether the wireless device should attempt to associate with an alternative access point, the ascertaining based at least in-part on a level of attenuation of signal strength of transmissions from the alternative access point where the alternative access point transmits at less than full power; and

requesting association with the alternative access point if it is ascertained that the wireless device should attempt to associate with said alternative access point.

2. (previously presented) The method of claim 1 further comprising the step of:

automatically collecting, by the wireless device, information about the alternative access point, including an indication of the level of attenuation.

3. (previously presented) The method of claim 2 wherein the step of ascertaining ascertains that the wireless device should attempt to associate with the alternative access point if the alternative access point is closer than the current access point in terms of a biased distance which accounts for AP loading.

4. (previously presented) The method of claim 3 wherein the step of ascertaining ascertains that the alternative access point is closer than the current access point by:

calculating a first biased distance between the wireless device and the current access point based on "x" samples;

calculating a second biased distance between the wireless device and the alternative access point based on "y" samples where "y" is less than "x"; and

ascertaining that the access point is closer than the current access point if the second biased distance is less than the first biased distance.

5. (previously presented) The method of claim 3 wherein the step of requesting association requests association by sending a message to the alternative access point.

6. (previously presented) The method of claim 1 wherein the step of ascertaining ascertains that the wireless device should attempt to associate with the alternative access point based at least in-part on maximum potential signal strength of the alternative access points.

Appendix B - Evidence Submitted

None.

Appendix C - Related Proceedings

None.